

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the claims:

1-18. (Canceled)

19. (Withdrawn) A device for communication with at least one of the gastrointestinal tract and the respiratory system of a patient in need of said communication comprising:

- a) a trans-tongue member having an aperture; and
- b) a tube passing through said trans-tongue member adapted for communication between the exterior of said patient and a portion of at least one of said patient's gastrointestinal tract and respiratory system.

20. (Withdrawn) A device for monitoring the health of a patient comprising:

- a) a trans-tongue member; and
- b) a sensor coupled to said trans-tongue member.

21. (Withdrawn) The device of claim 20 in which said sensor comprises at least one of a mechanical transducer and a chemical detector.

22. (Withdrawn) The device of claim 20 in which said sensor measures at least one of a condition in a portion of the tissue near said sensor and a condition in a portion of the circulatory system.

23. (Withdrawn) The device of claim 20 in which said device further comprises an electrode adapted to provide an electrical stimulus.

24. (Withdrawn) The device of claim 20 further comprising at least one member of the group consisting of a transmitter and a receiver.

25. (Withdrawn) A device for providing an electrical stimulus comprising:
- a) a trans-tongue member; and
 - b) an electrode adapted to provide an electrical stimulus.
26. (Withdrawn) A device for delivering a drug to a patient in need of said drug comprising:
- a) an implantable member having an aperture; and
 - b) a drug reservoir connected to said implantable member and adapted to gradually release said drug.
27. (Withdrawn) The device of claim 26 in which said implantable member comprises a bioabsorbable material.
28. (Withdrawn) The device of claim 19 in which said communication comprises fluid transport.
29. (Withdrawn) The device of claim 19 in which said communication comprises an imaging device.
30. (Withdrawn) The device of claim 29 in which said imaging device comprises a fiber optic.
31. (Withdrawn) The device of claim 19 comprising an endoscopic surgical member.
32. (Currently amended) A tissue retractor for treatment of a breathing disorder that prevents deformation of a mucosal soft tissue located in a patient's oral cavity or pharynx, the tissue retractor comprising:
- a) a shaft configured for transmucosal insertion into the mucosal soft tissue;
 - b) a retractor member connected at or near a first end of the shaft; and

c) an anchor member connected at or near a second end of the shaft,

wherein at least one of the retractor member or the anchor member is configured to be positioned on an external surface of the mucosal soft tissue, neither the retractor member nor the anchor member configured to be tethered to bone, the tissue retractor configured to permit sufficient fluid drainage to prevent infection while ~~and at least one of the shaft, the retractor member and the anchor member interact to exerting a pressure that force sufficient to prevent~~ prevents the deformation of the external surface of the mucosal soft tissue.

33. (Currently amended) The tissue retractor of claim 32 wherein the ~~pressure-force~~ stiffens the mucosal soft tissue to prevent deformation of the external surface, the ~~pressure-force~~ is a counterforce pressure that prevents deformation of the external surface, the ~~pressure-force~~ is a counterforce pressure that creates an indentation in the external surface, or at least one of the retractor member, the shaft, and the anchor member adjust to alter the ~~pressure-force~~ exerted on the mucosal soft tissue.

34. (Previously presented) The tissue retractor of claim 32 wherein the shaft is flexible.

35. (Currently amended) The tissue retractor of claim 32 wherein the shaft is removable from the mucosal soft tissue.

36. (Previously presented) The tissue retractor of claim 32 wherein at least one of the retractor member, the shaft, and the anchor member comprises an inflatable tube.

37. (Previously presented) The tissue retractor of claim 32 wherein at least one of the retractor member and the anchor member is disengagable from the shaft.

38. (Previously presented) The tissue retractor of claim 32 wherein the shaft comprises an internal passageway for adding a fluid.

39. (Previously presented) The tissue retractor of claim 38 wherein the shaft comprises a regulator for said fluid.

40. (Previously presented) The tissue retractor of claim 32 further comprising a connection configured to couple to at least one of the patient's pharynx, the patient's oral cavity, the patient's tooth, a dental device, and a mount exterior to the patient's mouth.

41. (Withdrawn) A method for treatment of a breathing disorder, the method comprising:

- a) inserting a shaft into a soft tissue located in a patient's oral cavity or pharynx;
- b) connecting a retractor member at or near a first end of the shaft; and
- c) connecting an anchor member at or near a second end of the shaft,

wherein at least one of the retractor member and the anchor member is positioned on an external surface of the soft tissue and at least one of the shaft, the retractor member and the anchor member interact to exert a pressure that prevents deformation of the external surface that brings the soft tissue toward another soft tissue located in the patient's oral cavity or pharynx.

42. (Withdrawn) The method of claim 41 wherein the pressure is a counterforce pressure that creates an indentation in the external surface, the pressure stiffens the soft tissue to prevent deformation of the external surface, or the pressure is a counterforce pressure that prevents deformation of the external surface.

43. (Withdrawn) The method of claim 41 further comprising the step of:

d) adjusting at least one of the retractor member, the shaft, and the anchor member to alter the pressure exerted on the soft tissue.

44. (Withdrawn) The method of claim 41 wherein the anchor member is in communication with a muscle that is active during sleep.

45. (Withdrawn) The method of claim 41 wherein the anchor member is connected to at least one of the patient's tooth, a dental device, and a mount exterior to the patient's oral cavity.

46. (Withdrawn) The method of claim 41 wherein at least a portion of at least one of the shaft, the retractor member and the anchor member is positioned in the patient's epiglottis.

47. (Withdrawn) The method of claim 41 further comprising positioning the retractor member, the shaft, and the anchor on a needle and inserting the needle to a desired depth within the soft tissue.

48. (Currently amended) A tissue retractor for treatment of at least one of snoring and sleep apnea that prevents deformation of a patient's tongue, the tissue retractor comprising:

- a) a shaft configured for transmucosal insertion into the patient's tongue;
- b) a retractor member connected at or near a first end of the shaft; and
- c) an anchor member connected at or near a second end of the shaft,

wherein at least one of the retractor member or the anchor member is configured to be positioned on an external surface of the tongue, neither the retractor member nor the anchor member configured to be tethered to bone, the tissue retractor configured to permit sufficient fluid drainage to prevent infection, while exerting a force sufficient to prevent ~~and at least one of the shaft, the retractor member and the anchor member interact to exert a pressure that prevents~~ the external surface from falling toward a soft tissue located in the patient's oral cavity or pharynx.

49. (Previously presented) The tissue retractor of claim 48 wherein the shaft is sized for insertion through the patient's tongue.

50. (Currently amended) The tissue retractor of claim 48 wherein the pressure force is a counterforce pressure that prevents deformation of the external surface, the pressure force is a counterforce pressure that creates an indentation in the external surface, or the retractor member, the shaft, and the anchor member adjust to alter the counterforce pressure exerted on the tongue.

51. (Previously presented) The tissue retractor of claim 48 wherein the tissue retractor is formed from one or more biocompatible materials.

52. (Previously presented) The tissue retractor of claim 48 wherein the shaft is flexible.

53. (Previously presented) The tissue retractor of claim 48 wherein the shaft is removable from the patient's tongue.

54. (Previously presented) The tissue retractor of claim 48 wherein at least one of the retractor member, the shaft, and the anchor member comprises an inflatable tube, or the shaft comprises an internal passageway for adding a fluid.

55. (Previously presented) The tissue retractor of claim 48 wherein the external surface is the centerline of the tongue curve.

56. (Previously presented) The tissue retractor of claim 48 wherein at least one of the retractor member and the anchor member is disengagable from the shaft.

57. (Previously presented) The tissue retractor of claim 48 further comprising a connection configured to couple to at least one of the patient's pharynx, the patient's oral cavity, the patient's tooth, a dental device, and a mount exterior to the patient's mouth.

58. (Withdrawn) A method for treatment of at least one of snoring and sleep apnea, the method comprising:

- a) inserting a shaft into a patient's tongue;
- b) connecting a retractor member at or near a first end of the shaft; and
- c) connecting an anchor member at or near a second end of the shaft,

wherein at least one of the retractor member and the anchor member is positioned on an external surface of the patient's tongue, and at least one of the shaft, the retractor member and the anchor member interact to exert a counterforce pressure that prevents the external surface from falling toward a soft tissue located in the patient's oral cavity or pharynx.

59. (Withdrawn) The method of claim 58 wherein the counterforce pressure creates an indentation in the external surface.

60. (Withdrawn) The method of claim 58 further comprising the step of:

d) adjusting at least one of the retractor member, the shaft, and the anchor member to alter the counterforce pressure exerted on the patient's tongue.

61. (Withdrawn) The method of claim 58 wherein the first end of the shaft is connected at or near the base of the tongue and the second end of the shaft is connected at or near the frenulum.

62. (Withdrawn) The method of claim 58 wherein the anchor member is in communication with a muscle that is active during sleep, or the anchor member is connected to at least one of the patient's tooth, a dental device, and a mount exterior to the patient's oral cavity.

63. (Withdrawn) The method of claim 58 wherein at least a portion of at least one of the shaft, the retractor member and the anchor member is positioned in the patient's epiglottis, both the retractor member and the anchor member are positioned adjacent the superior surface of the patient's tongue, or the retractor member is on one side of the frenulum, the shaft is beneath the tongue curve, and the anchor member is on the other side of the frenulum.

64. (Withdrawn) The method of claim 58 further comprising positioning the retractor member, the shaft, and the anchor on a needle, inserting the needle to a desired depth within the patient's tongue, and removing the needle.

65. (Withdrawn) The method of claim 58 wherein step a) further comprises:

a1) positioning the shaft in a needle bore;

a2) inserting the needle bore at or near the junction of the frenulum and the tongue blade with a tip of the needle bore oriented toward the tongue curve;

a3) advancing the needle bore through the tongue; and

a4) removing the needle bore while maintaining the shaft in the patient's tongue.

66. (Currently amended) A tissue retractor for treatment of at least one of snoring and sleep apnea, the tissue retractor comprising:

- a) a shaft configured for transmucosal insertion into a patient's tongue;
- b) a retractor member connected at or near a first end of the shaft, and
- c) an anchor member connected at or near a second end of the shaft,

wherein at least one of the retractor member or the anchor member is configured to be positioned on an external surface of the tongue, neither the retractor member nor the anchor member configured to be tethered to bone, the tissue retractor configured to permit sufficient fluid drainage to prevent infection, while exerting a force sufficient to prevent ~~and at least one of the shaft, the retractor member or the anchor member configured to prevent~~ at least a portion of the tongue from collapsing toward a soft tissue located in the patient's oral cavity or pharynx.

67. (Previously presented) The tissue retractor of claim 66 wherein the shaft is removable from the patient's tongue.

68. (Currently amended) A tissue retractor for treatment of a breathing disorder that prevents deformation of a soft tissue located in a patient's oral cavity or pharynx, the tissue retractor comprising:

- a) a shaft configured for transmucosal insertion into the soft tissue;
- b) a retractor member connected at or near a first end of the shaft; and
- c) an anchor member connected at or near a second end of the shaft,

wherein the retractor member and the anchor member are configured to maintain a position on an external surface of the soft tissue, the tissue retractor configured to permit sufficient fluid drainage to prevent infection, while exerting a force sufficient to prevent ~~and the shaft, the retractor member and the anchor member interact to exert a pressure that prevents the~~ deformation of the external surface of the soft tissue.

69. (Canceled)

70. (Withdrawn) A method for treatment of at least one of snoring and sleep apnea, the method comprising:

a) inserting a shaft into a patient's tongue, the first end of the shaft is connected at or near the base of the tongue, and the second end of the shaft is connected at or near the frenulum;

b) positioning a retractor member at or near the first end adjacent the base of the tongue;
and

c) positioning an anchor member at or near the second end adjacent the frenulum,

wherein the retractor member is positioned on an external surface of the patient's tongue, and the shaft, the retractor member and the anchor member interact to exert a counterforce pressure that prevents deformation of the external surface in a direction toward a soft tissue located in the patient's oral cavity or pharynx.

71. (Withdrawn) The method of claim 70 wherein the counterforce pressure prevents the external surface from falling toward the soft tissue.

72. (Withdrawn) A method for treatment of a breathing disorder, the method comprising:

a) inserting a shaft into a soft tissue located in a patient's oral cavity or pharynx;

b) connecting a retractor member at or near a first end of the shaft; and

c) connecting an anchor member at or near a second end of the shaft,

wherein each of the shaft, the retractor member, and the anchor member contact solely soft tissue, and the shaft, the retractor member, and the anchor member interact to exert a pressure that prevents deformation of at least a portion of the soft tissue to prevent obstruction of the patient's airway.

73. (Withdrawn) The method of claim 72 wherein the soft tissue is the patient's tongue, the retractor member contacts soft tissue in the patient's tongue that retracts at least a portion of the patient's tongue curve, and the anchor member is implanted in the genioglossus muscle.

74. (Currently amended) A device for treatment of a breathing disorder, the device having a first end, a second end, and a shaft disposed therebetween, the shaft is adapted for transmucosal insertion through a soft tissue located in the patient's oral cavity or pharynx, with at least one of the first end and the second end configured to maintain a position on an external surface of the soft tissue with each of the first end and the second end configured to contact solely soft tissue, and the tissue retractor configured to permit sufficient fluid drainage to prevent infection while exerting with at least one of the first end, the second end, and the shaft interacting to exert a pressure that prevents deformation of at least a portion of the soft tissue to prevent obstruction in the patient's airway.

75. (Previously presented) The device of claim 74 wherein both the first and the second end are configured to be positioned on an external surface of the soft tissue.

76. (Previously presented) The tissue retractor of claim 32 wherein the tissue retractor is adjustable.

77. (Previously presented) The tissue retractor of claim 32 wherein the anchor member is detachable from the shaft.

78. (Previously presented) The tissue retractor of claim 48 wherein the tissue retractor is adjustable.

79. (Previously presented) The tissue retractor of claim 48 wherein the anchor member is detachable from the shaft.

80. (Previously presented) The tissue retractor of claim 66 wherein the tissue retractor is adjustable.

81. (Previously presented) The tissue retractor of claim 66 wherein the anchor member is detachable from the shaft.

82. (Previously presented) The tissue retractor of claim 68 wherein the tissue retractor is adjustable.

83. (Previously presented) The tissue retractor of claim 68 wherein the anchor member is detachable from the shaft.